## II. Remarks

### A. Status of the Claims

Claims 1-17 are currently pending. Claims 1, 11 and 17 have been amended without prejudice. Support for the amendments can be found throughout the original application as filed, specifically, e.g., in the specification at paragraph [0018]. Applicants submit that no new matter has been added by virtue of this amendment.

### B. Claim Rejections under 35 U.S.C. § 103(a)

#### 1. Elmore et al. in view of Russell et al.

In the Office Action, claims 1-3 and 9-16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Publication No. 2006/0059107 to Elmore et al. in view of U.S. Publication No. 2004/0039964 to Russell et al.

This rejection is respectfully traversed. Applicants submit that the combination of Elmore et al. and Russell et al. fail to render obvious a method or apparatus for presenting data and functions to a user via a presentation layer, for use in a distributed processing system to effect an interface between a business layer and the presentation layer, as presently claimed. The Examiner is reminded that pursuant to MPEP, 8th Ed., 7th Rev. § 2142, to establish a prima facie case of obviousness, and thus sustain the rejection of a claim under 35 U.S.C. § 103(a), there must be a clear articulation of the reasons why Applicants' claimed invention would have been obvious. *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398 (2007). The Supreme Court in KSR has further noted that an analysis supporting a rejection under 35 U.S.C. § 103(a) should be made explicit. Therefore, it is clear that an obviousness rejection "cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977 (Fed. Cir. 2006). Moreover, "[t]o support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." MPEP, 8th Ed. 7th Rev. § 706.02(j).

In making the rejection, the Examiner cites to paragraphs [0051]-[0052]; [0094]; [0514]-[0516] and Figure 18 of Elmore et al. for allegedly disclosing "a data set structure comprising

hierarchical organizational information for arranging data and functions [objects] into at least one tree structure [hierarchy], the tree structure being configured to store data and functions of arbitrary type." Office Action at pages 3-4. However, Applicants submit that Elmore et al. does not describe a tree structure being configured to store data and functions of an arbitrary type, wherein the data and functions of an arbitrary type are arbitrarily nested in the tree structure, as recited in currently amended representative claim 1 as further discussed below.

The hierarchy described in Elmore et al. must be a three-layer structure containing only and specifically "three types of objects on the hierarchy: root, billing point, and assigned product", where the root of the hierarchy must be the top level. Elmore et al. at paragraph [0514] (Figure references omitted); and [0519]. Thus, (1) the hierarchy of Elmore et al. cannot be configured to arbitrarily nest the data and functions of an arbitrary type in the tree structure and (2) the hierarchy of Elmore et al. cannot be configured to store data and functions of an arbitrary type, as alleged by the Examiner, because the data in Elmore et al. must necessarily correspond to one of the enumerated objects, i.e., either the root, billing point or assigned product.

The Examiner has claimed that Elmore's objects are of an arbitrary type because they can be represented in various formats (e.g., characters, integers, etc.). Applicants respectfully disagree with the Examiner's position. Even though a billing point, assigned product or root may contain different formats, such as an integer or character, it is nevertheless still a billing point, assigned product, or root. Their function does not change. However, embodiments of Applicants' present application allow for the use of "Items", including a subset called "DataItems", that represent a trivial abstraction, corresponding to little more than "a thing" that can be in a "DataSet"; as such, it has little intrinsic behavior. See Specification at paragraph [0028]. Succinctly put, a billing point in Elmore et al. is always a billing point, even if it contains numbers, characters, dates, etc, but, an "Item" in Applicants' present application can be any arbitrary object, regardless of what the object contains.

Furthermore, Elmore et al. does not disclose storing functions, let alone functions of any type. The hierarchy of Elmore only stores three types of objects (i.e., root, billing point or assigned product) in the hierarchy. The root, billing point and assigned product of Elmore et al.

are data structures, containing only data types (i.e., int, varchar and date) and do not contain functions. Elmore et al. at paragraphs [0214]-[0409] and Tables 2.1-2.195.

Additionally, the Examiner states that paragraph [0517] of Elmore et al. discloses storing data and functions of an arbitrary type. However, paragraph [0517] of Elmore et al. describes that different objects can be *associated* with the hierarchy, not that such objects can be *stored* in the hierarchy. Further, paragraph [0514] of Elmore et al. recites that the root, billing point and assigned product objects are *organized* onto a hierarchy, and paragraph [0517] states that the other objects can be *associated* with the hierarchy objects. Applicants submit that "associating" an object with a hierarchy is not the same as "storing" an object in a hierarchy. Elmore et al. further substantiates this difference by pointing out specifically where the root, billing point, and associated product objects would be stored in the hierarchy in paragraph [0514]. This is in contrast with the present application, where the data is being stored within the tree structure, not "associated" with a hierarchy.

Finally, Elmore et al. does not disclose using a tree structure wherein the data and functions are arbitrarily nested in the tree structure. The hierarchy in Elmore is static, consisting of a root at the top and billing points and assigned products on the lower tiers. See Elmore et al. at paragraph [0514]. Embodiments of Applicants' present application utilize a hierarchy structure of "Items" (comprising either data items or functions) which allows for arbitrary nesting. See Specification at paragraph [0018].

Further, as admitted by the Examiner, Elmore et al. fails to describe "the further limitations of instantiating the business layer data set in said business layer as beans; serializing the beans in to XML; transporting the serialized beans to the presentation layer using Simple Object Access Protocol (SOAP); and deserializing the serialized beans in the presentation layer." Office Action at page 4. Russell et al. is relied upon by the Examiner solely because they purportedly describe these further limitations. However, Applicants submit that Russell et al. does not disclose a tree structure being configured to store data and functions of an arbitrary type, wherein the data and functions are arbitrarily nested, and therefore Russell et al. fail to cure the deficiencies of Elmore et al.

Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) over Elmore et al. in view of Russell et al. be removed.

**2. Elmore et al. in view of Russell et al. in further view of Newman et al.**

In the Office Action, claims 4-8 and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Elmore et al. in view of Russell et al. and further in view of U.S. Publication No. 2004/0230559 to Newman et al.

This rejection is respectfully traversed. Applicants submit that the combination of Elmore et al., Russell et al. and Newman et al. fail to render obvious a method or apparatus for presenting data and functions to a user via a presentation layer, for use in a distributed processing system to effect an interface between a business layer and the presentation layer, as presently claimed.

For the reasons discussed *supra*, Applicants submit that Elmore et al. and Russell et al. do not disclose the recited limitation of a tree structure being configured to store data and functions of an arbitrary type, wherein the data and functions are arbitrarily nested in the tree structure.

Applicants further submit that Newman et al. is relied upon by the Examiner solely for purportedly disclosing "multi-layer architecture, including the further limitation where defining a plurality of data items comprises defining a domain for each of said plurality of data items, the domain corresponding to the data type of a data item", with respect to claims 4-8, and for purportedly disclosing a tree structure providing the same with respect to claim 17. See Office Action at pages 8 and 11, respectively. However, Applicants submit that Newman et al. do not disclose a tree structure being configured to store data and functions of an arbitrary type, and therefore Newman et al. fail to cure the deficiencies of Elmore et al. and Russell et al.

Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) over Elmore et al. in view of Russell et al. and further in view of Newman et al. be removed.

## III. Conclusion

In view of the amendments made and arguments presented, it is believed that all claims are in condition for allowance. If the Examiner believes that issues may be resolved by a telephone interview, the Examiner is invited to telephone the undersigned at (973)597-6162. The undersigned also may be contacted via e-mail at epietrowski@lowenstein.com. All correspondence should be directed to our address listed below.

**AUTHORIZATION**

The Commissioner is hereby authorized to charge any fees that may be required, or credit any overpayment, to Deposit Account No. 50-1358.

Respectfully submitted,
Lowenstein Sandler PC

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